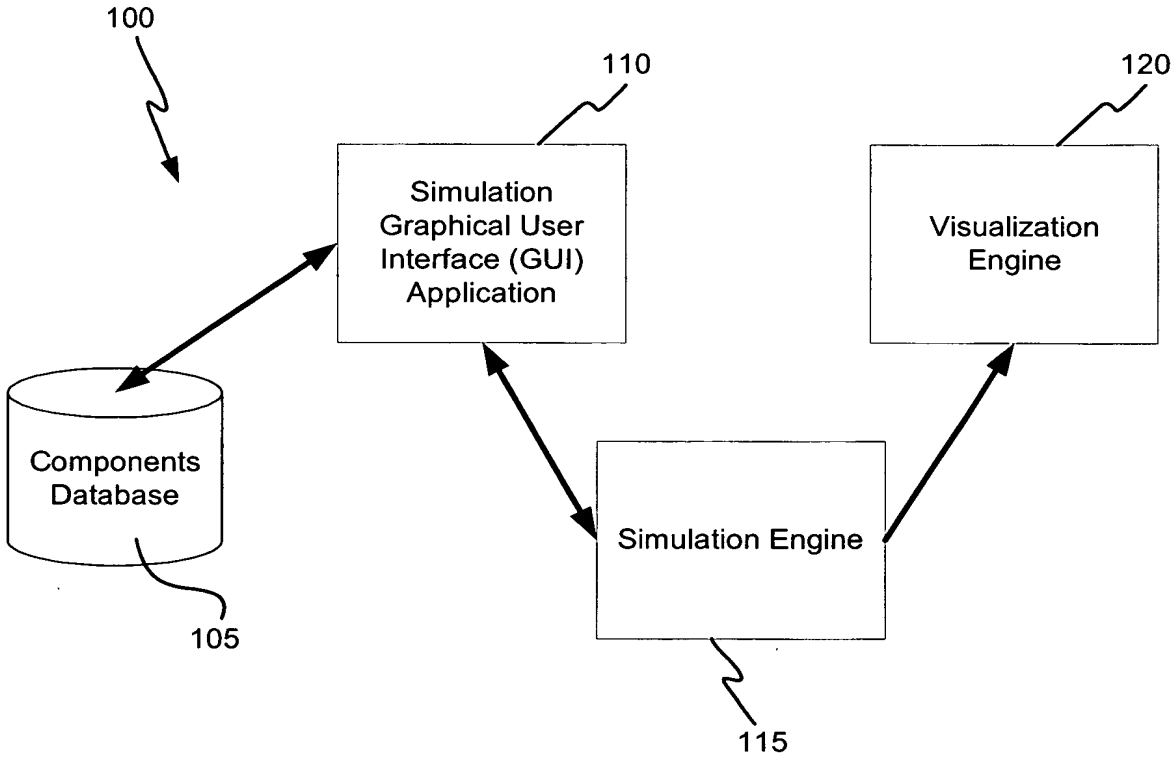
100
110
120
Simulation Graphical User Interface (GUI) Application
Visualization Engine
Components Database
Simulation Engine
105
115

FIG. 1

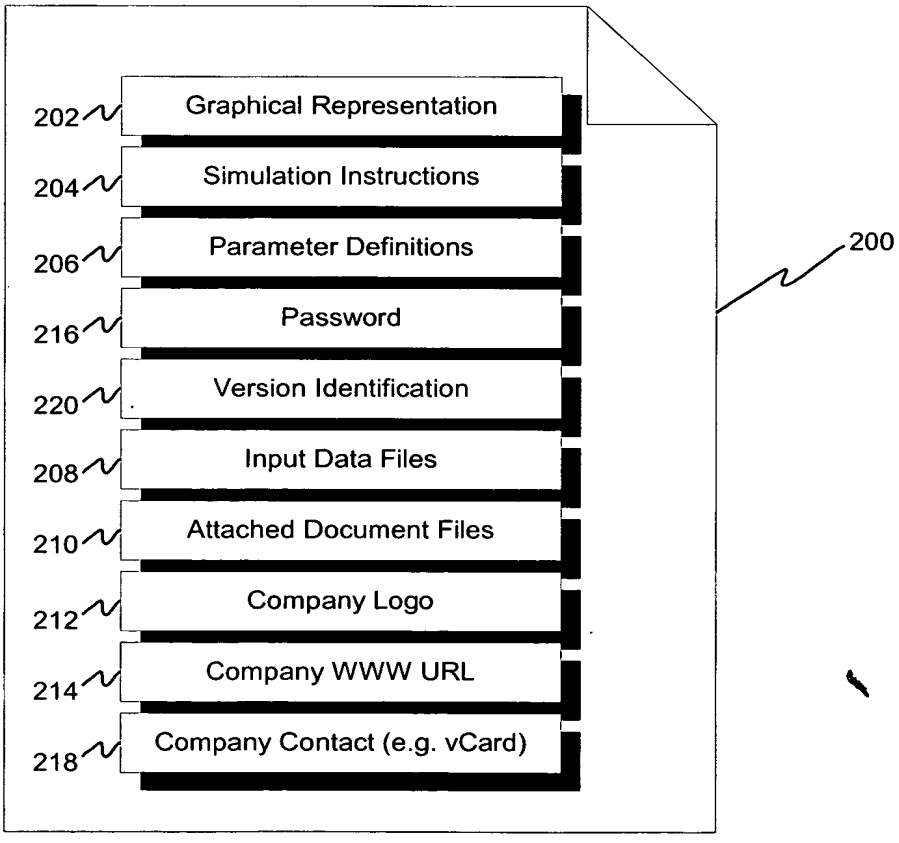
202
Graphical Representation
204
Simulation Instructions
206
Parameter Definitions
216
Password
220
Version Identification
208
Input Data Files
210
Attached Document Files
212
Company Logo
214
Company WWW URL
218
Company Contact (e.g. vCard)
200

FIG. 2

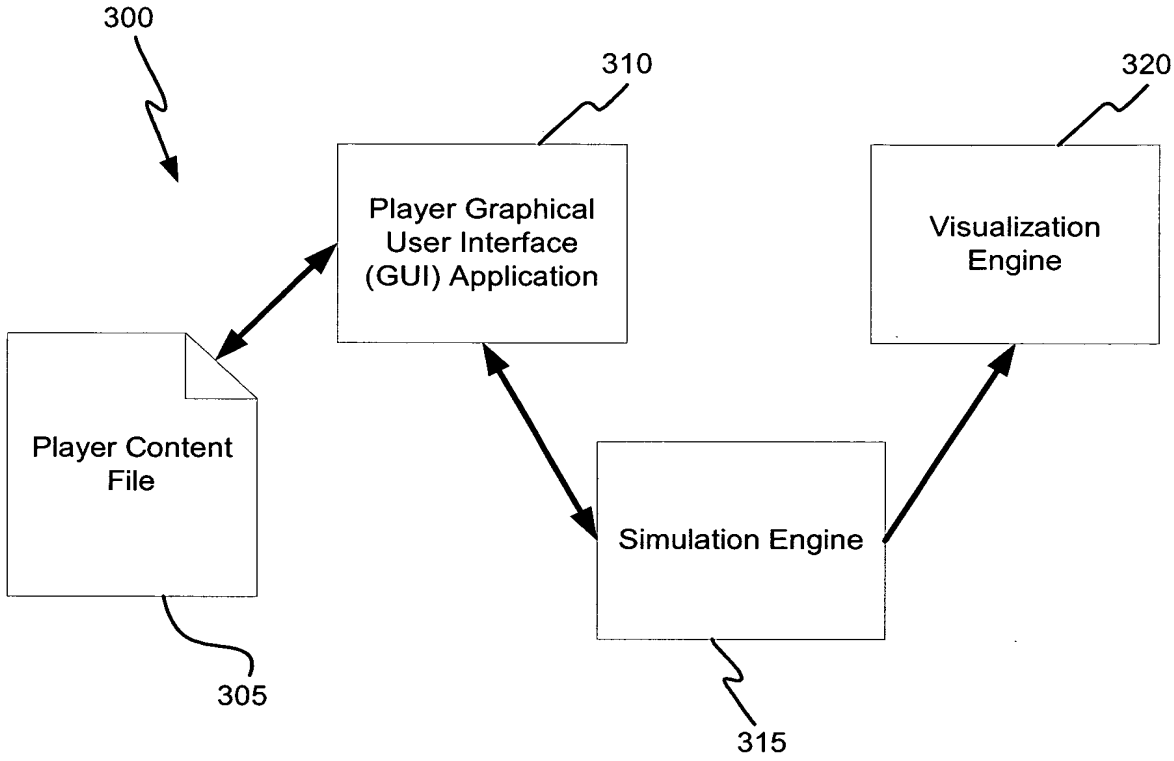
300
310
320
Player Graphical User Interface (GUI) Application
Visualization Engine
Player Content File
Simulation Engine
305
315

FIG. 3

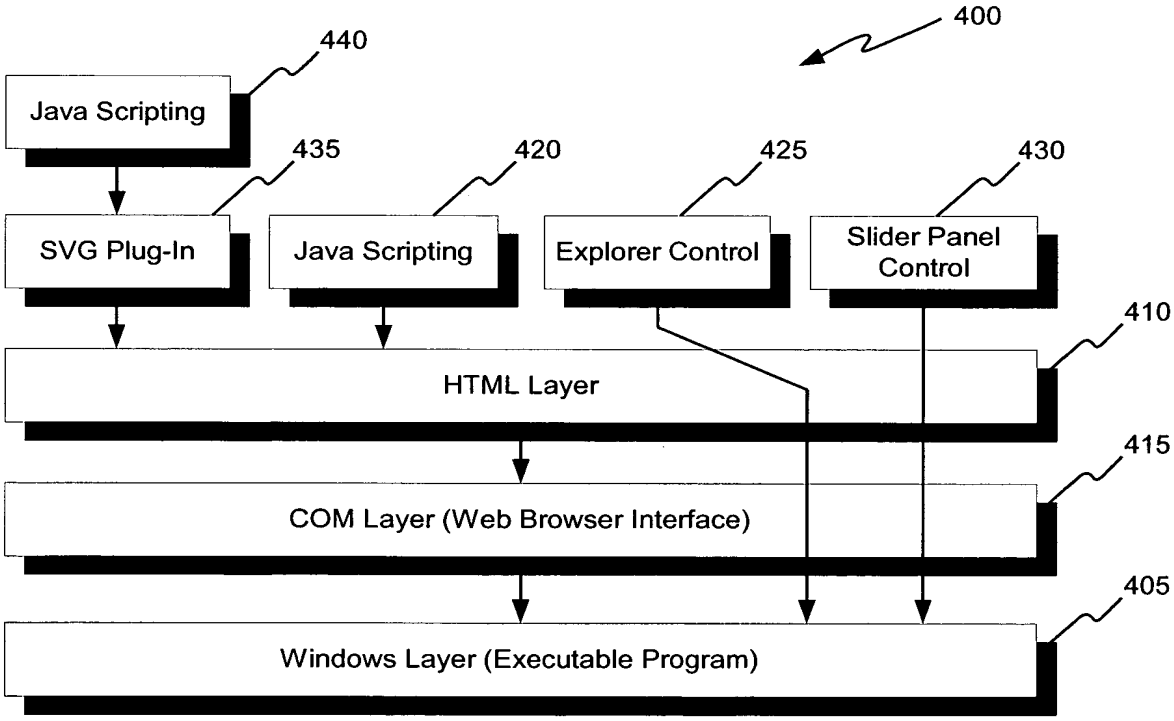
400
440
Java Scripting
435
420
425
430
SVG Plug-In
Java Scripting
Explorer Control
Slider Panel Control
410
HTML Layer
415
COM Layer (Web Browser Interface)
405
Windows Layer (Executable Program)

FIG. 4

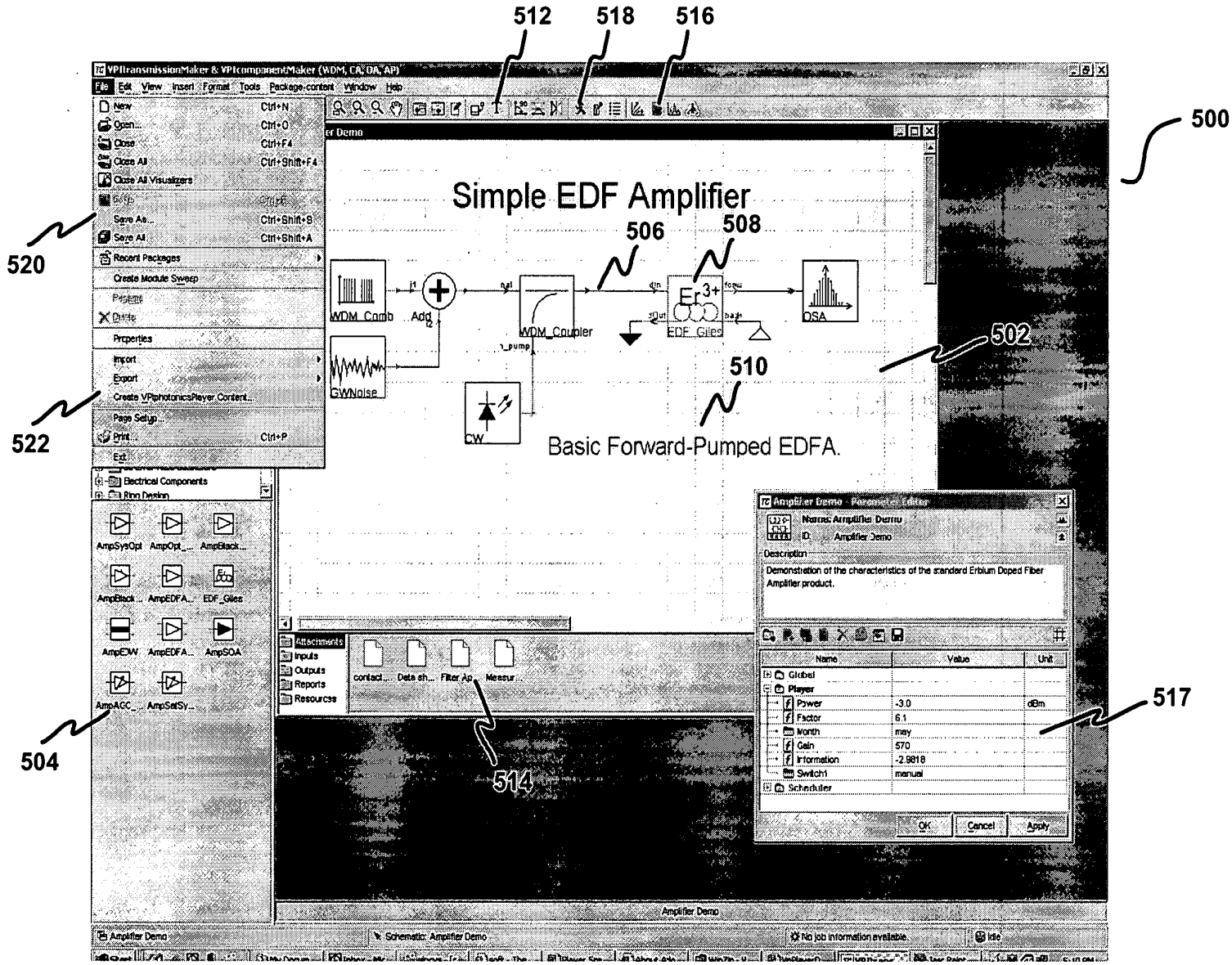
512
518
516
500
520
506
508
Simple EDF Amplifier
WDM_Combo
Add
WDM_Coupler
EDF_Giles
DSA
GWNoise
CW
502
510
522
Basic Forward-Pumped EDFA.
504
514
517
OK
Cancel
Apply

FIG. 5

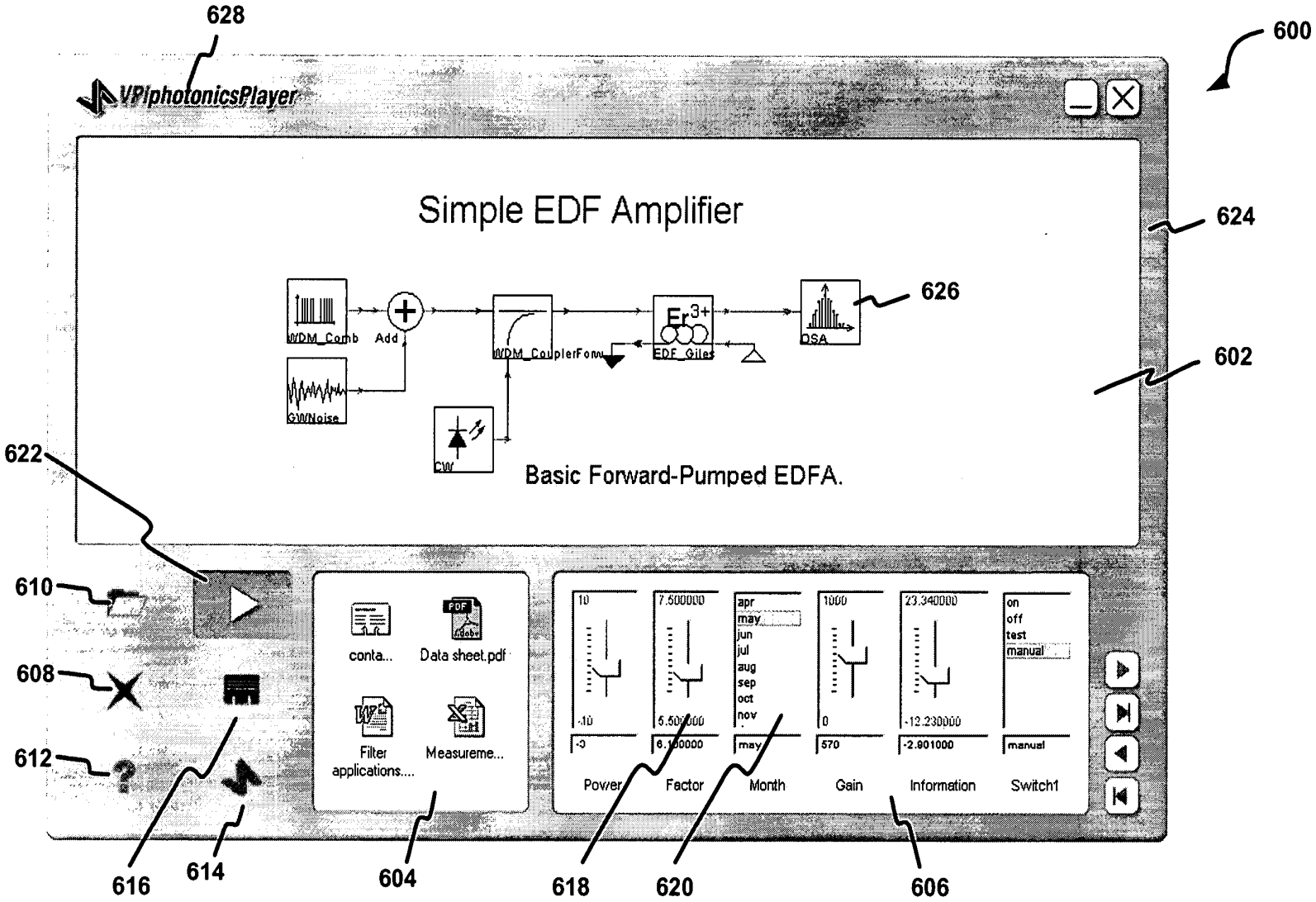
628
600
VPIphotonicsPlayer
Simple EDF Amplifier
624
626
602
WDM_Comb
Add
WDM_CouplerForw
EDF_Giles
OSA
GWNoise
CW
Basic Forward-Pumped EDFA.
622
610
608
612
conta...
Data sheet.pdf
Filter applications....
Measureme...
Power
Factor
Month
Gain
Information
Switch1
apr
may
jun
jul
aug
sep
oct
nov
on
off
test
manual
616
614
604
618
620
606

FIG. 6

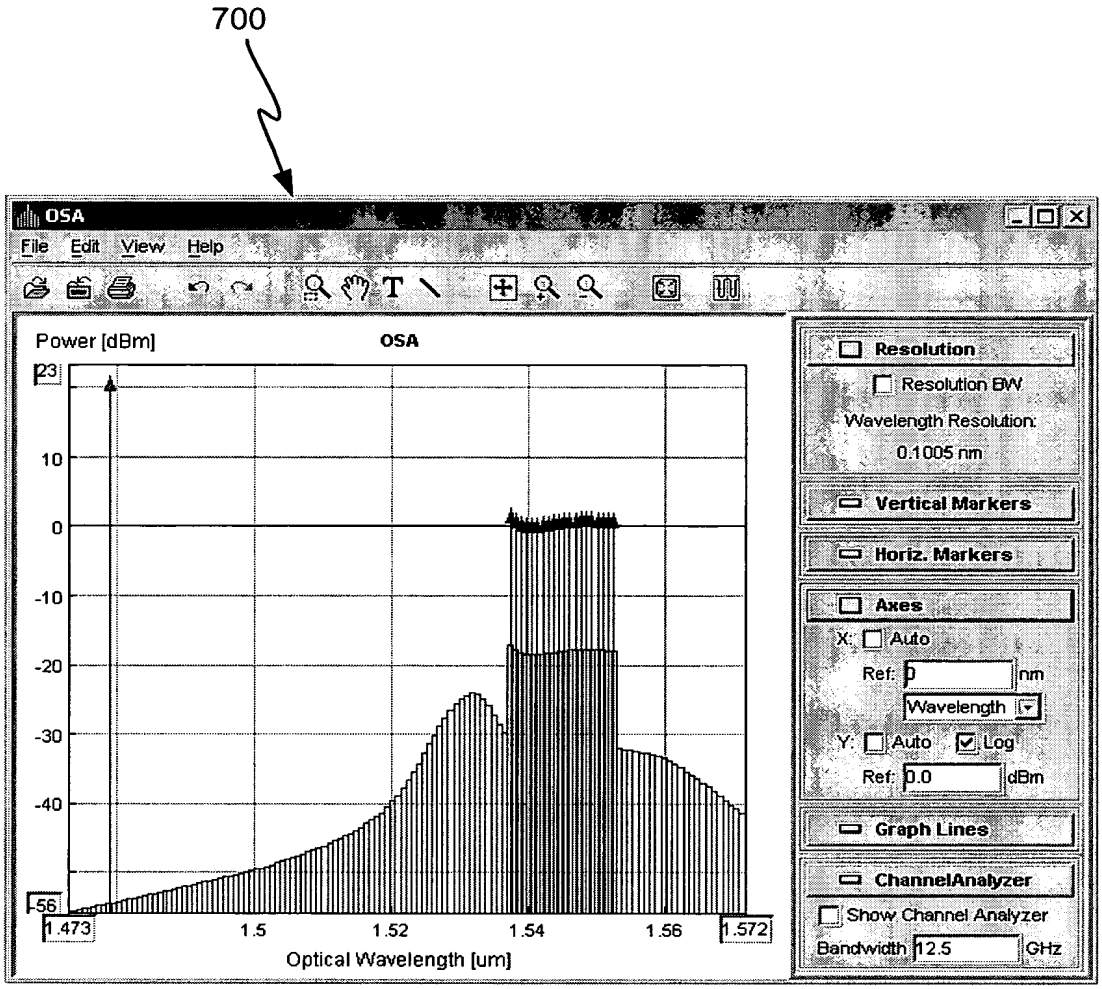
700
OSA
File Edit View Help
Power [dBm]
OSA
23
10
0
-10
-20
-30
-40
-56
1.473
1.5
1.52
1.54
1.56
1.572
Optical Wavelength [um]
Resolution
Resolution BW
Wavelength Resolution:
0.1005 nm
Vertical Markers
Horiz. Markers
Axes
X: Auto
Ref: 0 nm
Wavelength
Y: Auto Log
Ref: 0.0 dBm
Graph Lines
ChannelAnalyzer
Show Channel Analyzer
Bandwidth 12.5 GHz

FIG. 7

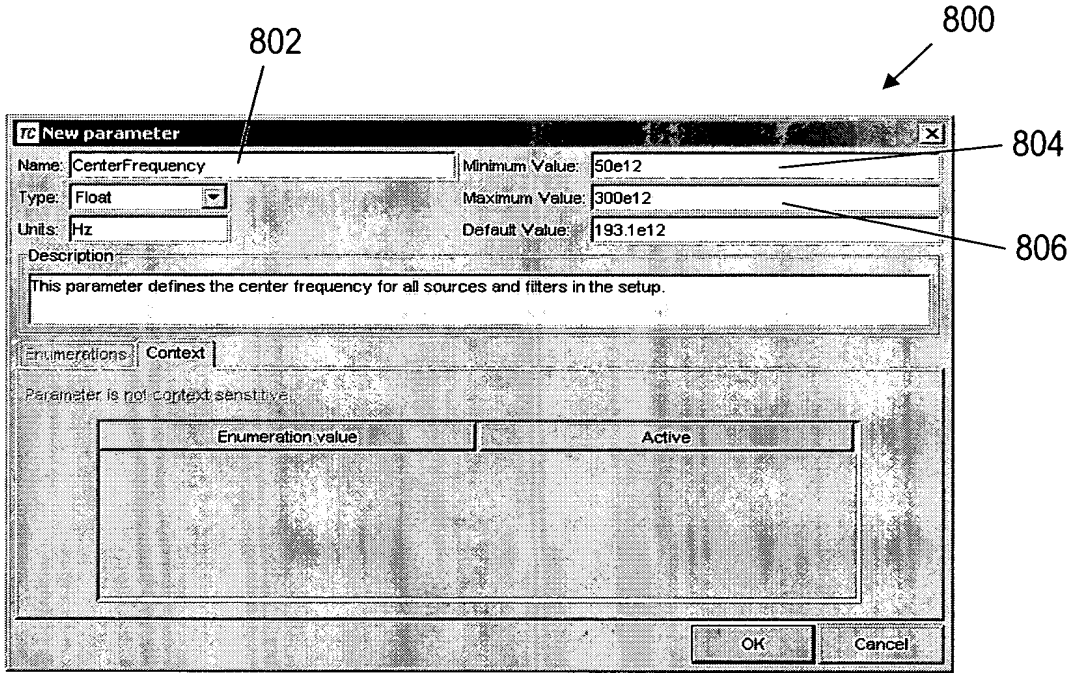
800
802
804
806
New parameter
Name: CenterFrequency
Type: Float
Units: Hz
Minimum Value: 50e12
Maximum Value: 300e12
Default Value: 193.1e12
Description
This parameter defines the center frequency for all sources and filters in the setup.
Enumerations
Context
Parameter is not context sensitive
Enumeration value
Active
OK
Cancel

Fig. 8

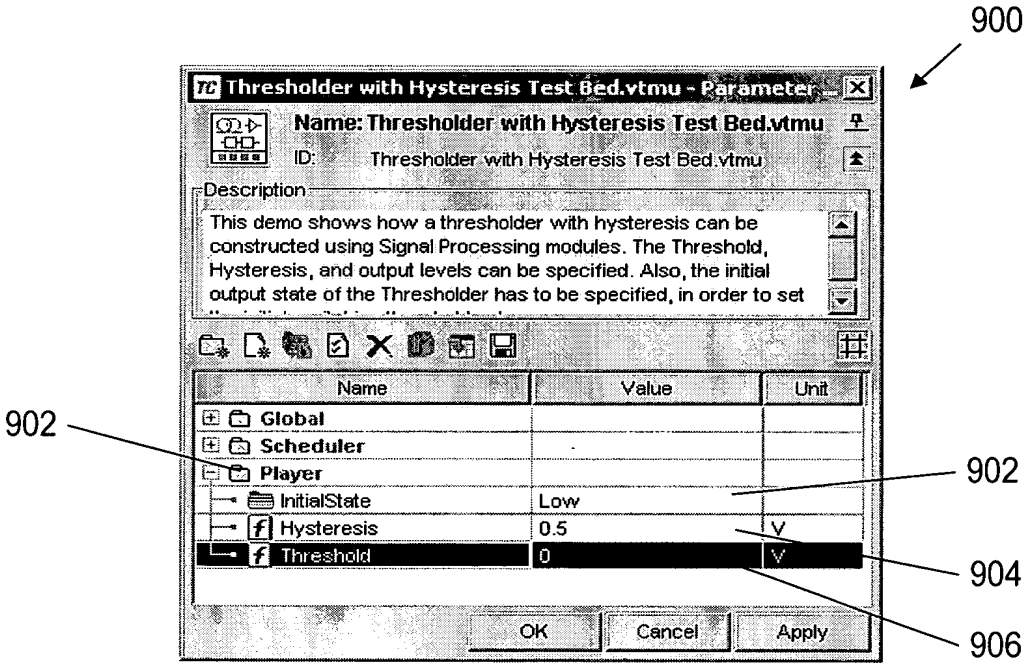
900
902
902
904
906
Thresholder with Hysteresis Test Bed.vtmu - Parameter
Name: Thresholder with Hysteresis Test Bed.vtmu
ID: Thresholder with Hysteresis Test Bed.vtmu
Description
This demo shows how a thresholder with hysteresis can be constructed using Signal Processing modules. The Threshold, Hysteresis, and output levels can be specified. Also, the initial output state of the Thresholder has to be specified, in order to set
Name
Value
Unit
Global
Scheduler
Player
InitialState
Low
Hysteresis
0.5
V
Threshold
0
V
OK
Cancel
Apply

Fig. 9

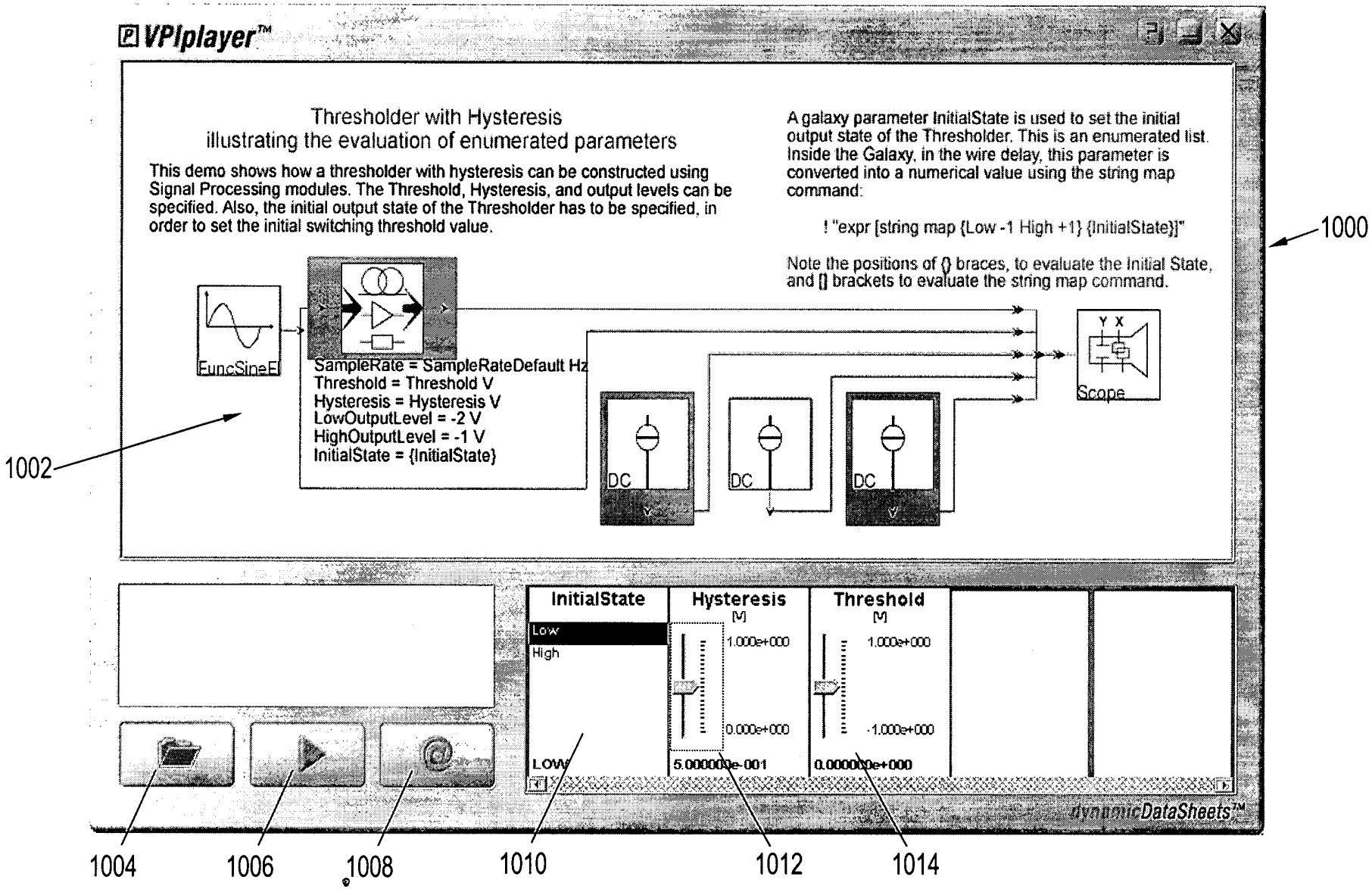
VPIplayer™
Thresholder with Hysteresis
illustrating the evaluation of enumerated parameters
This demo shows how a thresholder with hysteresis can be constructed using Signal Processing modules. The Threshold, Hysteresis, and output levels can be specified. Also, the initial output state of the Thresholder has to be specified, in order to set the initial switching threshold value.
A galaxy parameter InitialState is used to set the initial output state of the Thresholder. This is an enumerated list. Inside the Galaxy, in the wire delay, this parameter is converted into a numerical value using the string map command:
! "expr [string map {Low -1 High +1} {InitialState}]"
Note the positions of {} braces, to evaluate the Initial State, and [] brackets to evaluate the string map command.
1000
FuncSineEl
SampleRate = SampleRateDefault Hz
Threshold = Threshold V
Hysteresis = Hysteresis V
LowOutputLevel = -2 V
HighOutputLevel = -1 V
InitialState = {InitialState}
1002
DC
DC
DC
Y X
Scope
InitialState
Low
High
Hysteresis
[V]
1.000e+000
0.000e+000
5.000000e-001
Threshold
[V]
1.000e+000
-1.000e+000
0.000000e+000
dynamicDataSheets™
1004
1006
1008
1010
1012
1014

Fig. 10

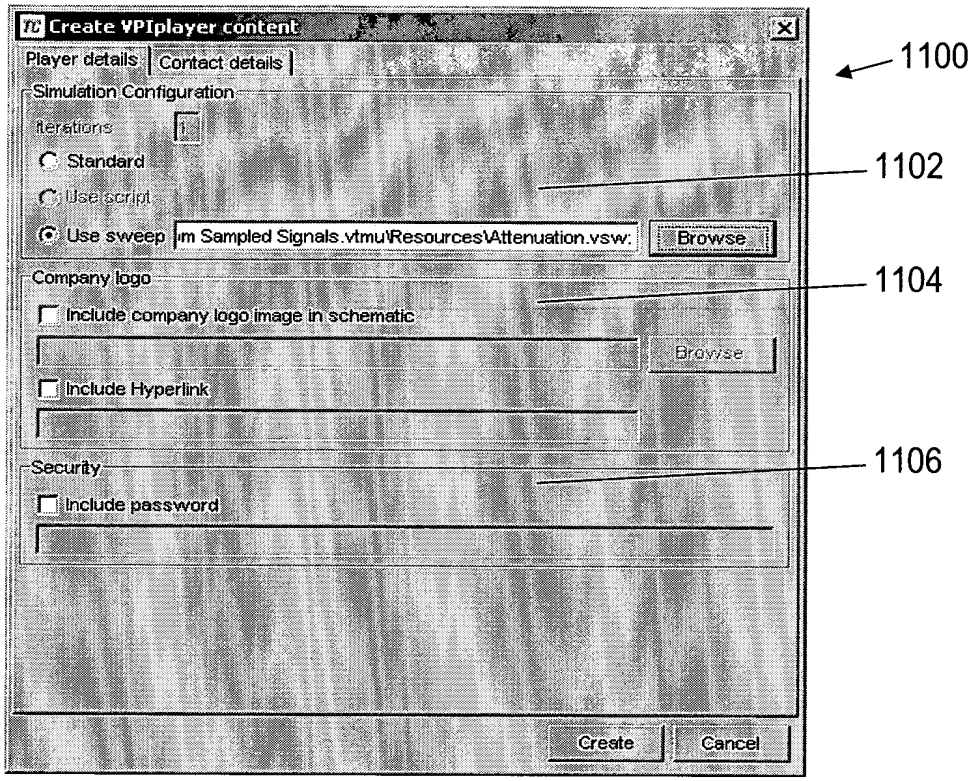
Create VPIplayer content
Player details
Contact details
Simulation Configuration
Iterations
Standard
Use script
Use sweep
m Sampled Signals.vtmu\Resources\Attenuation.vsw:
Browse
Company logo
Include company logo image in schematic
Browse
Include Hyperlink
Security
Include password
Create
Cancel
1100
1102
1104
1106

Fig. 11

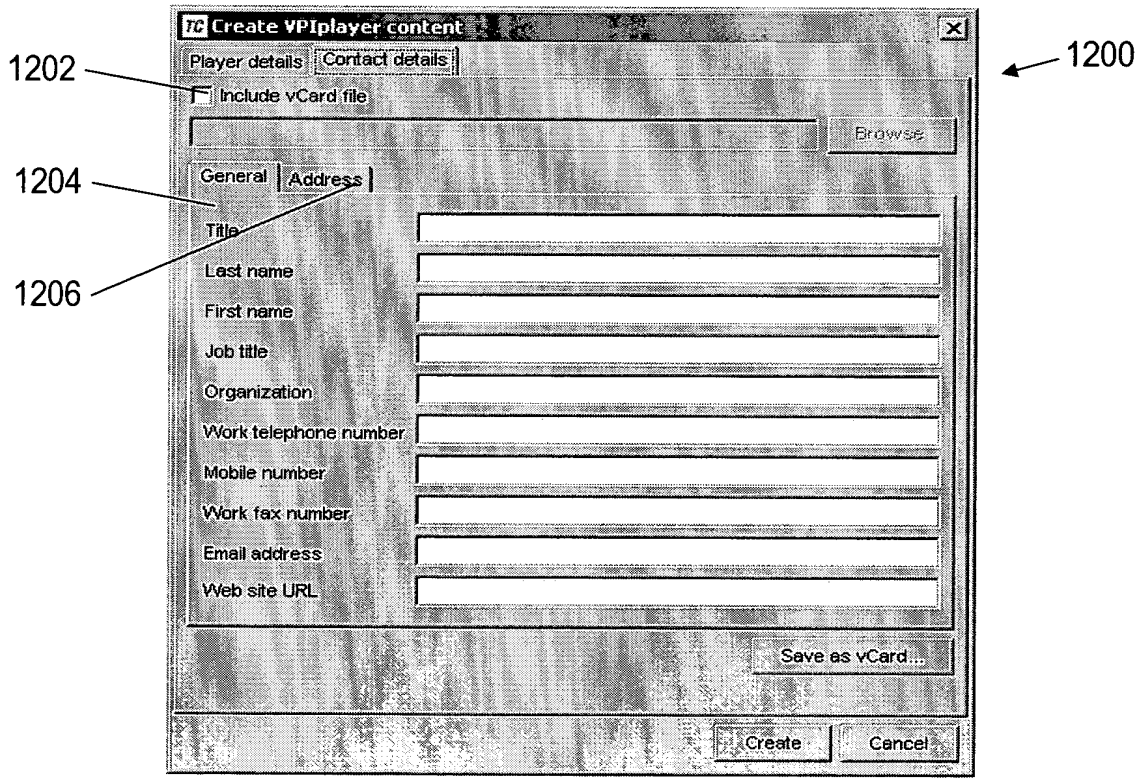
Create VPIplayer content
Player details
Contact details
Include vCard file
Browse
General
Address
Title
Last name
First name
Job title
Organization
Work telephone number
Mobile number
Work fax number
Email address
Web site URL
Save as vCard...
Create
Cancel
1200
1202
1204
1206

Fig. 12

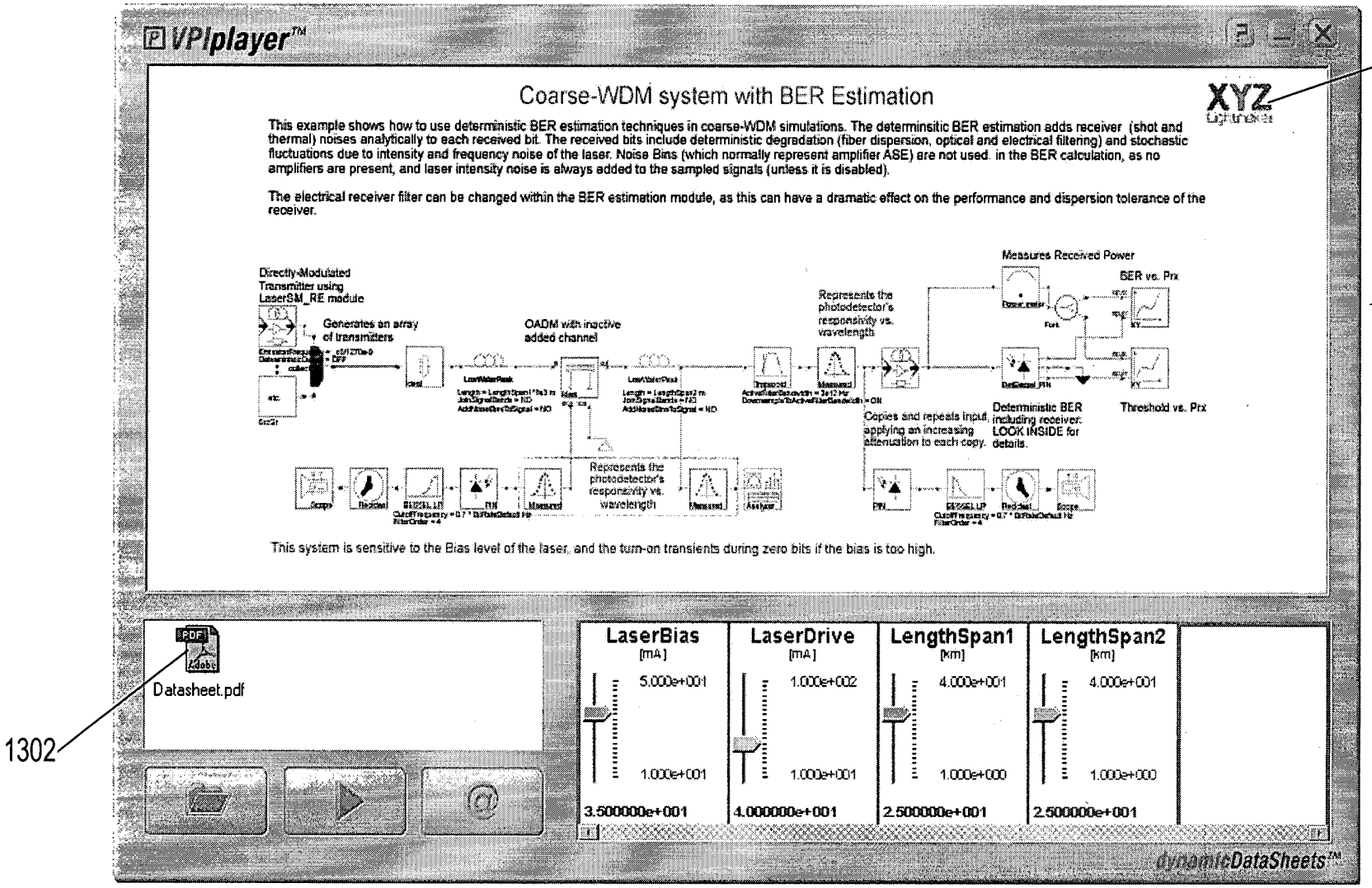
VPIplayer™
Coarse-WDM system with BER Estimation
XYZ
This example shows how to use deterministic BER estimation techniques in coarse-WDM simulations. The determinsitic BER estimation adds receiver (shot and thermal) noises analytically to each received bit. The received bits include deterministic degradation (fiber dispersion, optical and electrical filtering) and stochastic fluctuations due to intensity and frequency noise of the laser. Noise Bins (which normally represent amplifier ASE) are not used. in the BER calculation, as no amplifiers are present, and laser intensity noise is always added to the sampled signals (unless it is disabled).
The electrical receiver filter can be changed within the BER estimation module, as this can have a dramatic effect on the performance and dispersion tolerance of the receiver.
Directly-Modulated Transmitter using LaserSM_RE module
Generates an array of transmitters
OADM with inactive added channel
Represents the photodetector's responsivity vs. wavelength
Measures Received Power
BER vs. Prx
Copies and repeats input, applying an increasing attenuation to each copy.
Deterministic BER including receiver: LOOK INSIDE for details.
Threshold vs. Prx
Represents the photodetector's responsivity vs. wavelength
This system is sensitive to the Bias level of the laser, and the turn-on transients during zero bits if the bias is too high.
Datasheet.pdf
LaserBias
[mA]
5.000e+001
1.000e+001
3.500000e+001
LaserDrive
[mA]
1.000e+002
1.000e+001
4.000000e+001
LengthSpan1
[km]
4.000e+001
1.000e+000
2.500000e+001
LengthSpan2
[km]
4.000e+001
1.000e+000
2.500000e+001
dynamicDataSheets™
1304
1300
1302

Fig. 13